

CLAIMS

What is claimed is:

1. A continuously variable speed power transmission comprising:

an input member rotatable about an input axis;

an output member rotatable about an output axis including a plurality of rearwardly directed output face teeth thereon;

a conjugate reaction control rotor mounted for selective rotation about the input axis including a plurality of forwardly directed reaction face teeth thereon in opposition to the output face teeth on the output member;

a motion converter with gear type teeth embodied on both sides rotatably mounted for nutational motion about the input axis including a plurality of load transmitting follower members on both sides thereon simultaneously engageable with the output rotor face teeth and with the reaction rotor face teeth; and

control means for selectively adjusting the rate of rotation of the reaction control rotor relative to the input member;

whereby relative rotation between the reaction control rotor and the input member results in both rotation and nutation of the conjugate motion converter about the input axis and thereby results in a continuously variable change of ratio of the rotational speed of the output member relative to the input member.

2. A continuously variable speed power transmission as set forth in claim 1, wherein said teeth are selected from the group consisting of external and internal bevel and face type teeth.

5 3. A continuously variable speed power transmission with integrated motors/generator components comprising:

an input member rotatable about an input axis;

10 an output member rotatable about an output axis including a plurality of rearwardly directed output face cams thereon;

15 a reaction control rotor with integrated motors/generator components mounted for selective rotation about the input axis including a plurality of forwardly directed reaction face cams thereon in opposition to the output face cams on the output member;

20 a pericyclic motion converter rotatably mounted for nutational motion about the input axis including a plurality of load transmitting follower members thereon simultaneously engageable with the output face cams and with the reaction face cams; and

25 control means for selectively adjusting the rate of rotation of the reaction control rotor relative to the input member;

30 whereby relative rotation between the reaction control rotor and the input member results in both rotation and nutation of the pericyclic motion converter about the input axis and thereby results in a continuously variable change of ratio of the rotational speed of the output member relative to the input member.